SYLLABUS

TWO-YEAR INTEGRATED COURSE
FOR
TRAINING
OF
VILLAGE LEVEL WORKERS

OFFICE OF THE PRINCIPAL, EXTENSION TRAINING CENTRE
6 NOV 1959
T. KALLUPATTI
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Directorate of Extension

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PREFACE

With the inception of the Community Development Programme in 34 Extension Training Centres were started throughout the country to train multipurpose Village Level Workers. Soon it became evident that a six months' training in Extension methods was inadequate and that a preliminary course in the basic agricultural subjects, of at least a year's duration, was also essential. The Basic Agricultural Schools/Wings were started in 1954 to fulfil this need. The Indian Council of Agricultural Research, which was then incharge of Extension training, prepared a draft syllabus for adoption at these institutions.

With growing experience, it became apparent that in order to improve the quality of Extension training, the curriculum followed at the Training Centres had to be materially modified and made more job-related.

The subject came up for discussion at the Fourth Extension Training Conference held at Mt. Abu (Rajasthan) during May-June, 1957. The Conference recommended that regional committees, each consisting of principals of Extension Training Institutions and one or two officers responsible for organizing and executing the Community Development Programme, should be appointed by the Ministry of Food and Agriculture to draw up model syllabi for Integrated Institutions. These regional committees were also required to recommend the nature of the tests to be prescribed for the selection of Village Level Worker trainees; detailed procedures for weeding out, unsuitable trainees during the first two months of their admission to the Training Centres; the system of examinations to be followed; and the delegation of powers to the principals. It was further suggested by the Abu Conference that a central committee should be constituted for formulating an all-India model syllabus on receipt of the recommendations of the various regional committees.

In pursuance of these recommendations, five regional committees and a central committee were formed by the Government of India. The Central Committee met on 29th, 30th and 31st May, 1958 to consider the recommendations of the regional committees, and evolved a model syllabus for adoption at the Extension Training Institutions.

The syllabi as drawn up are only indicative of the important role which the last and most important functionary in the team of the development staff, the Gram Sevak, is expected to play. Throughout their deliberations, the members of the syllabus committees have been conscious of the fact that

Extension training implies educating people in the results of scientific research, and, is essentially a training "for the job." A fresh attempt has, therefore, been made in view of the experience gained so far, to make the syllabus "job-related." It should, however, be remembered that mere words have no meaning unless the Gram Sevaks, during the course of their training, are fully equipped to perform the difficult task of educating villagers and to stimulate in them the desire for a better living. This is where the trainers and others associated with the training programme have a vital role to play. We are confident that they will not be found lacking in this respect.

The Directorate of Extension Training is grateful to the members of the central and regional committees for their valuable suggestions, and especially to Shri M. S. Haq, Deputy Development Commissioner, Uttar Pradesh, and Shri J. S. Kaushiva, Principal, Extension Training Centre, Bulandshahar, Uttar Pradesh.

B. S. Kadam

INTRODUCTION

Model syllabus to be adapted to suit local requirements. This syllabus has been prepared for the training of Village Level Workers in an integrated course of 'Basic Agriculture' and 'Extention'. It intends, in theory and practice, to impart to Extension Workers the basic knowledge of certain important subjects related to the rural development work. This course has to be covered in a period of 24 months. The various stages of its coverage are indicated in the syllabus.

The syllabus is meant to serve as model for the Training Centres functioning in different regions. In view of the difference in the geographical and other local conditions, emphasis on the relevant items would differ from region to region. Some of the items indicated in the syllabus may not be useful for some areas, whereas others, not included in the syllabus, may have to be added. All the same it is hoped that the basic requirements of the training all over the country would be met through this syllabus. The number of periods indicated for different items is only suggestive. This may vary according to the local needs.

Various stages of training. The three aspects of training, *viz.*, the 'class-room study' 'practical training at the campus' and 'training in the field are indicated separately in the syllabus. These constitute what may be termed as 'institutional training' which forms the first part of the syllabus. The second part is 'job training' in which the trainees are required to work almost independently, so that they may gain self-confidence in field work before they leave the Training Centre. As the object of this training is to prepare self-reliant, practical field workers and not mere theorists, it would be essential to actuate the class-room knowledge of theory with a practical end in view. In short, it would be a "problem centred" and "job centred" training.

The practical studies which are to be conducted at the camp, and the operations which are to be performed in the field during the period of 'institutional training' have also been treated in the syllabus. The number of camp practicals and the actual scope of field operations have, however, not been specified because of the variable local factors. It would, therefore, be necessary for the principals and instructors of the Training Centres to work out a comprehensive plan to integrate class-room study with practical work at the campus and the field.

A National Extension Service Block to serve as laboratory. It is obvious that the training of the field workers will not be complete unless

they get full opportunities of participating in the field activities. It, therefore, goes without saying that a Block must be attached to a Training Centre. The programme of work which is executed in this Block should be such, as to serve as model for the trainees. This training programme should be drawn up under the guidance of the principal, jointly, by the staff of the Block and the Training Centre. It is also necessary that the staff of the Training Centres should remain in close touch with the field activities of the Block, so that they watch the progress of work jointly, and analyse the field problems for their effective solution. It is very important that the efficiency of the regular Village Level Workers serving in the Blocks is maintained at a high level. This responsibility should be shouldered jointly by the Block level officers and the instructors of the Training Centres. The performance of these workers and their mental attitude, during the course of their daily routine, should be frequently observed, and they should be helped to develop correct attitude to attain a higher standard of efficiency. They may be invited occasionally to the Training Centre to attend important demonstrations, discussions or lectures. They would receive important key-point lessons at the Block staff meetings before the commencement of the important seasonal programmes. They should be associated with the training programme and encouraged to offer suggestions for improvement.

Break-up of the syllabus and preparation of plans and notes for lessons. The syllabus should not be followed mechanically. The manner how it should be handled by various instructors, demands imagination on their part. In the first instance, well before the commencement of a course, a break-up of the syllabus is to be prepared in order to lay down a comprehensive time-table of work, integrating, in a scientific and rational way, theoretical and practical studies at the camp and the field. The guiding principles in preparing this break-up are :—

(1) The trainees should have a necessary background to understand field operations as quickly as possible.

(2) The programme of institutional training should be so developed as to take advantages of the seasonal activities of the Block attached to the Training Centre;

(3) The fact, whether class-room discussions should precede or follow the practical observations by the trainees, should be determined in accordance with the nature and the importance of the individual items.

For instance, if a batch of trainees joins at a time when the sugarcane sowing is going on, the instructor should work out a plan as to how quickly he would prepare the trainees to appreciate this programme in the field. He should think out whether it would be a useful and more effective way of teaching if a class is started with a theoretical discussion on the different varieties of sugarcane, and the different methods of sowing, or whether the trainees

should have an opportunity in the beginning to study at the farm of the Training Centre or in the field, some of the types being sown and the methods being adopted for sowing, and to follow it up withdiscussions in the class-room. The Instructor should also determine the number of practicals to be done at the camp, and the nature and the scope of operations to be taken up in the field by an individual trainee or a group of trainees.

On the basis of these plans prepared with a view to ensuring effective method of teaching and proper integration of theory, camp and field practicals, a break-up of the syllabus for a quarter or a half year should be prepared in advance. The staff of the Block attached to a Training Centre should be fully associated in preparing this break-up and they should be fully briefed about the requirements of the training programme and the specific role that they would have to play with the instructors in giving practical field training.

For field training a mechanical programme of visits by trainees to the field will not do. Such visits should be regulated by the nature and importance of the seasonal activities of the Block area and by the precise work that the trainees are supposed to do in that connection. Generally, at this stage the trainees are required to study the jobs that the regular Village Level Workers of the area may be doing and to participate in them. They should work as under-studies to him and observe the Extension methods and the scientific technique employed in carrying out the piece of job. They should not be expected to achieve the targets of the work as independent or semi-independent workers. It is, however, necessary to fix, for instance, the number of demonstrations of various types in which a trainee must participate, the number of vaccinations that he has to apply for practice and so on and so forth.

The trainees should have full instructions, before setting out for villages, about what precisely they are expected to do on each occasion. They should not be sent out without being fully briefed. Aimless visits to villages by the trainees should be scrupulously avoided. At this stage they should also not be directed to approach cultivators, particularly village leaders, as a full-fledged worker does; nor should they be asked to conduct a door-to-door survey. In the first instance, such a detailed survey is not necessary for the purpose of prepa ring an Extension programme. Whatever data is needed to formulate a plan, should be obtained from a few selected villagers and from the revenue and other records. If at some stage, detailed information is needed it may be collected through a few individuals, keeping the following in view :

(*i*) The enquiry should be limited to the collection of factual data.

(*ii*) No survey should be conducted to elicit opinion.

(*iii*) The workers conducting such enquiries should be fully briefed about the object of enquiry, and the village leaders should be taken into confidence before the enquiry is started.

Having determined how and when, training in the individual topics should be imparted, the instructors should prepare lesson-notes. These lesson-notes should, besides other material, include the exercises which will have to be worked out for a clear understanding of the various topics. For instance to determine the amount of irrigation for a crop after the application of chemical fertilisers, the instructors may require the trainees to apply fertilisers on crops in small beds and study the results of proper or improper irrigation. Such exercises should be worked out for various important topics.

The stage for 'job training' comes after the 21-month 'institutional training' is over. During the period of 'job training' the trainees are expected to carry out a minimum programme, the nature and scope of which depends mainly on the season in which this is to be done. The volume of work to be under taken in this period should not be heavy. It should be sligthly lighter than what an experienced worker is supposed to carry out in normal conditions. The emphasis should be not on the mere accomplishment of jobs or targets, but on how they are done and what effect they create on the minds of the people concerned. It would be useful to keep the following principles in view while laying down a set of jobs to be done during this period and while assessing the quality of work :

(a) How does a piece of job done reflects on the technical knowledge of the worker ?

(b) To what extent has he been prompt and able to make a judicious use of resources and time ?

(c) How often did he visit the site of his work after the initial operations. What was the impact of his visit ?

(d) How far have the parties or persons concerned been able to assimilate the knowledge which is intended to convey through a particular job ?

(e) To what extent, as a measure of their willing and intelligent participation, the people produced resources and supplies at their own. How far did they physically participate in a programme ?

(f) How many people, other than those who were directly associated in a programme have subsequently become interested in it ?

The work which the trainees should be required to do during the period of 'job training' should thereafter be followed up by the trained Village Level Workers after the trainees leave the site. It, therefore, follows that such items, as establishment of youth clubs, etc., should not be assigned to the trainees without considering the question whether or not it would be physically possible for the trained Village Level Workers to look after so many institutions that a large number of trainees would be setting up in the successive batches during the period of ob-training.

Evaluation. The object of evaluating the training programme should be two-fold. Firstly, it is to ascertain how far individual trainees have been able to understand the subjects taught to them, and to what extent they can apply their knowledge to field problems. Secondly, it is to find out how effectively the work of teaching has been done and what improvements in the methods employed are necessary. In order to make a systematic evaluation, assessments should be made through short periodical tests in theory and practicals in each subject beginning from the second month of the training and continuing upto the 20th month. There should be no test in the first month. Approximately half of these tests as indicated on page 11, should be in theory and half of them in practicals, in each subject. The tests in theory as well as in practicals should be conducted during one of the periods allotted for the subject. The practical tests may also include short viva voce examination. The result of these tests should be included in the results of the final theoretical and practical examinations. The evaluation of Extension work done by the trainees during the period of 'job training', (for which they should be sent out early in the 22nd month), should be completed in the first fortnight of the 24th month.

Weeding of unsuitable candidates. Normally the unsuitable trainees should be eliminated after three periodical tests. The basis of weeding should be poor performance, undesirable attitude and behaviour as observed from day to day. In serious cases of indiscipline a trainee may be weeded out even earlier.

SYLLABUS OF THE INTEGRATED TRAINING COURSE FOR VILLAGE LEVEL WORKERS

Subjects. The integrated course for Village Level Workers will consist of instruction in theory, practical and extension of the following subjects:

(1) Agriculture I-Soil Management and Agricultural Engineering.
(2) Agriculture II-Crop Husbandry.
(3) Horticulture and Plant-Protection.
(4) Animal Husbandry.
(5) Co-operation.
(6) *Panchayats.*
(7) Public Health.
(8) Social Education.
(9) General including Extension Principles and Programme Planning.
(10) Minor Engineering works.
(11) Rural Industries.

Allotment of time. The total duration of the integrated course will be two years. After 21 months' training in the camp and the final theory and practical examinations, the trainees will be sent out to villages for job training as apprentice Village Level Workers for two and a half months, which will also include the period of assessment of their field work. Thereafter, the trainees will return to the camp for a fortnight for the removal of deficiencies noticed during their assessment.

Out of the 21 months, 266 days may be set apart as follows:

(*a*) Sunday and other gazetted holidays	115
(*b*) Vacations	14
(*c*) Final examinations (written and practical)	14
(*d*) Periodical visits to villages during the institutional training period for seasonal activities, and study tours	118
(*e*) Unforeseen	5
Total	266

The total number of working days available for theoretical and practical instruction in the institution will thus come to 364 days. Besides the general camp routine and one hour's compulsory self-study period, six hours will be devoted every day to study in the class room and outside. Of these, two and a quarter hours will be utilized for practical instruction, and the remaining three and three quarter hours will be divided into 5 periods of 45 minutes each for class room instruction, with an interval of fifteen minutes after two or three periods. The total time available will thus be 1820* periods of 45 minutes each for class room insturction and 1092 periods (819) hours for practical instruction in the camp.

*(1365 hours)

The allotment of time for theoretical and practical instruction in the different subjects will be as follows :

Allotment of time

Subject	Theory: Number of periods allotted for covering theory course, revision and tests		Theory: Frequency and number of periodical tests	Number of periods allotted for practical instruction in the institution
1. Agricultural Soil Management and Agricultural Engineering . . .	210		Monthly—19	120
2. Agricultural Crop Husbandry	210	700	Monthly—19	120
3. Horticulture and Plant Protection	280		Bimonthly—10	170
4. Animal Husbandry	270	270	Bimonthly—10	140
5. Co-operation	130	260	Quarterly—6	75
6. *Panchayats*	130		Quarterly—6	75
7. Public Health	180	180	Bimonthly—10	110
8. Social Education . .	140	140	Periodical—15	82
9. General including Extension Principles and Programme Planning	110	110	Quarterly—6	60
10. Minor Engineering Works	60	60	Periodical—3	40
11. Rural Industries . .	100	100	Periodical—3	100
TOTAL .		1820		1092

The number of periods allotted for each subject is suggestive and may be modified according to the local requirements. The number of practicals necessary for the different items, and the time to be devoted to them should also be fixed according to requirements.

Assessment. The assessment of the trainees will be based on the periodical tests and the final examinations (written and practical) including viva voce in the various subjects, and on the performance of the trainees in the job training period. The periodical tests will be held from the second to the 21st month of the training period according to the frequency indicated above against respective subjects, and will be conducted in the periods allotted for instruction in the subjects concerned. These tests will carry ten marks each and the total number of marks in all the periodical tests in each subject will be reduced proportionately to the number of marks allotted for the purpose, as is shown below. The results of the tests will be announced at the earliest, and the deficiencies noticed in these tests should be discussed with the trainees.

The final theoretical and practical examinations will be held in the 21st month and the valuation of the trainees' performance during job training will be conducted just before their return to the institution for final instructions.

ALLOCATION OF MARKS

Subject	Theory			Practical			Extension			Grand Total	Remarks
	Periodical Tests	Final examination	Total	Periodical Tests	Final examination	Total	Periodical Judging	Final assessment	Total		
1. Agriculture I—Soil Management and Agricultural Engineering	40	40	80	40	40	80	50	50	100	260	There will be one written examination and one practical examination for each subject. The duration of written examinations will generally be three hours for each subject except "Extension Principles, and Programme Planning" and "Minor Engineerig works" for which it will be one and a half hours each.
2. Agriculture II—Crop Husbandry	40	40	80	40	40	80	50	50	100	260	
3. Horticulture and Plant-Protection	40	40	80	40	40	80	50	50	100	260	
4. Animal Husbandry, Dairying & Veterinary Science	40	40	80	40	40	80	50	50	100	260	
5. Co-operation	30	30	60	20	20	40	..	..	..	100	

6. Panchayats	30	30	60	20	20	40	50	50	100	200
7. Public Health	30	30	60	30	30	60	40	40	80	200
8. Social Education	20	20	40	20	20	40	40	40	80	160
9. General including Extension principles and Programme Planning	30	30	60	..	..	..	..	..	..	60
10. Minor Engineering Works	20	20	40	20	20	40	40	40	80	160
11. Rural Industries	20	20	40	20	20	40	..	..	..	80
TOTAL	340	340	680	290	290	580	370	370	740	2,000

Marks for discipline, leadership and initiative . 250

GRAND TOTAL . 2,250

The marks for discipline, initiative and leadership will be awarded on the basis of the monthly observation reports to be submitted by all the instructors and will be recorded in the personal files of the individual trainees, to be maintained by the principal.

The minimum pass marks will be 40 per cent in the written and 50 per cent in the practical examinations in each subject and 45 per cent in the aggregate. A maximum of five grace marks will be allowed if a trainee fails in one theory paper only, but ten marks will be deducted from the aggregate for every grace mark awarded. The categorization will be as follows :—

Third Division . . .	45 per cent to below 60 per cent.
Second Division . . .	60 per cent to below 70 per cent.
First Division . . .	70 per cent and above.
Distinction in individual subjects	80 per cent and above.

1. AGRICULTURE I—SOIL MANAGEMENT AND AGRICULTURAL ENGINEERING

Theory periods 210
Periods for camp practicals 120

Theory Lectures	Periods	Camp Practicals	Field Practicals
1. *Soils*			
Elementary knowledge about sedentary and transported soils and their composition, soil moisture, organic matter, soil air, soil organisms, and important minerals including major elements necessary for plants	11		
Kinds of soils found in different tracts of the State, their chief characteristics with special emphasis on local soil types	5	Study of soil map of the state. Visual identification of different samples of soil (specially local types). Digging of soil profile and identification of horizons. Practice in use of simple soil testing kit	Study of Local soil types in the field
Soil conservation—causes and types of soil erosion, extent of losses ; Common measures to check soil erosion. Acid, *Usar* and water-logged lands and methods of their reclamation	11	Bunding of fields. Demonstration of different practices to check erosion	Critical study of soil conservation project in the area, and practice in simple methods of controlling soil erosion in villages
Land Improvement Legislation in the State	3		
2. *Tillage and Tillage Implements*			
Tillage and its objects. Common tillage practices, ploughing, harrowing, rolling, levelling, interculture	11		
Local weeds and their control	6	Collection and identification of the important local weeds	
Tillage implements-different kinds of ploughs, cultivators, harrows, hoes, *patela* (planker), paddy weeder and puddler, *bakhar*, *danela*, useful for the locality. Parts, cost, source of availability and comparative working cost, including draft and output of these implements	39	Practice in ploughing, harrowing, rolling, levelling and intercultural operations. Practice in opening and fitting of implements, and their adjustment	Demonstrations of the use of the different tillage implements. Cultural demonstrations (sowing in lines, etc). Critical study of the faulty demonstrations of implements

3. *Manures and Manuring*			
Soil fertility—Causes of its depletion. Maintenance of soil fertility by judicious manuring	6		
Different kinds of manures—organic and inorganic			
A. ORGANIC			
(*a*) Farmyard manure, compost, cattle urine, night soil, tank silt, fish meal, blood meal, sheep folding	20	Digging compost - pits. Preparation of compost. Sectional filling. Collection of cattle urine	Utilization of cowdung and cattle urine for manure. Compost-making in villages
(*b*) Green manuring and its importance in the programme of increasing soil fertility. Important green manure crops and their suitability for different soils and climatic conditions. Their economisc. Green manuring the standing crops including the application of phosphates to green manure crops. Different methods of raising seeds of the green manure crops for self-sufficiency. Planting of Ipomoea carnea on bunds for green manuring	14	Identification of seeds of different green manure crops. Cultivation, turing in of green manure crops	Multiplication of the seed and manure crops
(*c*) Cakes suitable for manuring; methods of their application ; composition of important cakes, their source of availability and economics	8	Identification of different cakes; Practice in application of cakes in main crops; Calculation of doses	Manurial demonstration with cakes
(*d*) Bonemeal—its method of application, source of availability and economics	3	Identification and practice in application	
B. INORGANIC FERTILIZERS			
Important chemical fertilizers—Single, complete, and mixed ; Their ingredients, doses, time and methods of application and suitability for different crops. Availability and economics ; Precautions necessary in the use of fertilizers	14	Identification of important fertilizers and practice in their application ; Calculation of doses	Judicious use of fertilizers in different crops and its programme of extension in the villages

Theory Lectures	Periods	Camp Practicals	Field Practicals
4. *Irrigation*			
Methods and practices for conservation of soil mositure; Systems of Irrigation. Different water lifts and pumps suitable for the locality, their cost, output and sources of availability ; Comparative cost of irrigation per acre by the use of different water lifts; Canal and State tube-well irrigation charges for main crops	18	Knowledge of the working of common water lifts and pumps	Study of pumping plants and other irrigation appliances. Study of the working of State tube-wells and cost of irrigation. Study of minor irrigation projects
Rational use of canal water and avoidance of water losses	3	Levelling of fields and construction of water channels	
Adverse effects of over-irrigation	3		
Different methods of drainage and its importance	3		
Major, Medium and minor irrigation works (including river valley projects) and facilities provided by the State for minor irrigation work	6		
5. *Other agricultural implements and machinery*			
Bullock-driven seed,drills, cane crushers, dibblers, threshers, corn sheller winnower and chaff cutter; Soil conservation implements, their sources of availability, cost and output of work in comparison with local appliances and practices	26	Opening and fitting of different agricultural implements and machinery; their actual handling and maintenance. Working knowledge of common carpentary and smithy tools and their use for minor repairs.	Demonstrations of the use of important agricultural implments and machinery

2. AGRICULTURE II—CROP HUSBANDRY

Theory periods—210 Periods for Camp practicals 12?

Theory Lectures	Periods	Camp Practicals	Field Practicals
1. *Elementary Climatology*			
Elementary knowledge of crop, seasons, rainfall and temperature	3		
Effect of weather conditions on soils and crops at different stages	3	Observation of the effect of weather conditions on crops	

Meteorological instruments—Barometer, thermometers—Maximum and Minimum, dry and wet bulb and Raingauge; weather forecasts	6	Handling and reading of Meteorological instruments	
Local beliefs			
Common proverbs and sayings related to weather forecasts	3		
2. *Plants*	14	Identification of different kinds of roots, stems and leaves	
Broad classification of plants			
Angiosperms, dicots and monocots			
Structure of seed : factors affecting germination, mode of germination of monocot (maize and wheat) and dicot (gram and gourd) seeds			
Roots : Ordinary and modified—their functions —morphological difference between root and shoot			
Stem : Ordinary and modified and their functions			
Leaf : Simple, compound and modified—their functions			
Flowers and their parts			
Pollination: Self and cross fertilization			
Difference between fruit and seed			
Dispersal of fruit and seed			
Elementary physiology : root absorption; respiration ; transpiration ; photosynthesis; Parasitic plants affecting crops			
3. *Seed*			
Characteristics of good seed : classification of seed into different categories	5	Study of different qualities of seed samples of important crops, their examination and categorization	Actual categorization of seed samples of at least four farmers
4. *Germination test*			
Importance of germination tests, how and when to carry them out	3	Actual germination of seeds of main crops	Actual germination test of seed samples of four farmers

Theory Lectures	Periods	Camp Practicals	Field Practicals
5. *Field Crops*			
A. Classification of crops :			
(*a*) Seasonal—*Kharif*, *Rabi* and *Zaid*			
(*b*) Economic-Cereals, legumes, millets, root-crops, fibres, oil-seeds, fodder crops and others (*viz.*, sugarcane)			
B. Study of the following *Kharif*, *Rabi* and *Zaid* crops :			
Paddy, maize, *juar*, *bajra*, small millets, *arhar*, *mung*, *urd*, *lobia*, groundnut, *til*, cotton, jute, castor, wheat, barley oats, gram, peas, linseed, mustard, berseem, lucerne, napier, potato, tobacco, and other important local crops under the following heads :	84	Identification of improved varieties of different crops, through seeds and plants. Adequate practice in all the important operations of various crops	
(*a*) Soil and climatic requirements, (*b*) Seed bed preparation,		Preparation of at least one dummy seed bed of each of the important crops	
(*c*) Important varieties,			
(*d*) Seed selection and pre-sowing treatment,			
(*e*) Seed rate and method of sowing,			
(*f*) Manurial requirement,			
(*g*) Irrigation,			
(*h*) Interculture,			
(*i*) Important pests and diseases and their control			
(*j*) Roguing,			
(*k*) Harvesting,			
(*l*) Threshing,			
(*m*) Winnowing and storage			
(*n*) Economics (average cost o f cultivation and the returns			

6. *Crop Rotations*			
Principles and advantages of crop rotations Important crop rotations of the locality	11	Critical study of important crop rotations followed at the Institution's farm and preparation of three rotations of local crops	Critical study of important rotations followed in the locality
7. *Mixed cropping*			
Different practices and suitable rotations for mixed cropping, their advantages and disadvantages	8	Critical study of mixed cropping at the Institution's farm	Study of the prevalent practices in mixed cropping and suggestions for improvement
8. Multiplication of 'A' class seeds of improved varieties for local self-sufficiency			
On individual basis by dibbling and line-sowing ; mass multiplication by block-sowing through progressive farmers. Exchange, seed purchase programme and rules of purchase of commodities for seed store. Maintenance of purity-Roguing, care of seed during harvesting, threshing, storage, exchange and distribution. Seed-dressing for storage; labelling of bags	14	Study of seed multiplication at the Institutional farm. Study of procedure of exchange in Villages and purchase of improved seeds at the seed store Roguing at Institutional farm. Selective harvesting for maintenance of purity Practice in seed-dressing and labelling	Study of seed multiplication by dibbling line-sowing and block-sowing. Arranging exchange of seed for at least one farmer. Arranging roguing in at least two farmers' fields
9. *Seed stores*			
Working of the agriculture and co-operative seed stores. Maintenance of seed store accounts. Timely arrangement of supplies, common mistakes and bottle-necks	8	Preparation of seed store accounts on supplied data	Visit to Agricultural and co-operative seed stores from time to time to study their accounts; Visit to potato-cold-store, if there be any in the locality
10. Storage of farm produce—grain, fodder and potatoes	5	Demonstration of proper storing of grain, fodder and potatoes	

NOTE —Detailed study of special methods of cultivation of important crops in the State *e.g.*, **Japanese Method of Paddy Cultivation.**

Theory Lectures	Periods	Camp Practicals	Field Practicals
11. Crop Planning for individual holdings of different sizes			
Crop planning for (*a*) Tube-well areas; (*b*) Canal areas ; (*c*) Areas irrigated by other sources ; and (*d*) Unirrigated areas including areas with low precipitation; dry farming	14	Critical study of crop planning at the Institution's farm	Working out cropping pattern for at least two farmers possessing holdings of average-size in the area
Intensive farming	..		
Mixed farming	..		
For Hills only—Crop planning for—			
12. Demonstrations	14		
Object of demonstration ; types of demonstration; methods of laying out demonstrations	..	Layout of actual and dummy demonstrations	Layout of demonstrations at least one of each type in each season
Follow-up of demonstrations including harvesting and threshing. How to present results of demonstrations to the farmers; records to be maintained		Periodical observations of demonstrations	Follow-up of demonstrations, maintenance of records and presentation of results to farmers
Common defects noticed in demonstrations and how to avoid them	5	Preparation of demonstration-plan cultivator-wise and village-wise	
13. Estimation of crop yields by crop cutting technique	..	Actual crop cutting	Observation of crop cutting at farmers' fields
14. Crop competitions	5		
Importance, rules of crop competitions, and how to organise them			

3. HORTICULTURE AND PLANT-PROTECTION

Theory periods—280   Periods of Camp practicals—170

A. HORTICULTURE

1. *Vegetable crops*

Theory	Periods	Practicals
Important *Kharif*, *Rabi* and *Zaid* vegetables of the locality. Study of the cultivation of cucurbits, gourds, colocasia, sweet potato, *bhindi*, chillies, brinjal, garlic, ginger, turmeric, radish, carrot, turnip, pea, beans, cole crops, (cabbage, cauli-flower and *knolkhol*), onion, tomato, leafy vegetables, *e.g.*, lettuce, *palak*, *methi*, *cholai*, *kulpha*, *poi*, (Cole crops for hills) and other important crops of the locality under the following heads :	55	Adequate practice in raising vegetable crops, and use of garden tools. Raising of seed of important vegetable crops Identification of different vegetable seeds

(*a*) Soil and climatic requirements

(*b*) Raising of the nursery

(*c*) Seed bed preparation

(*d*) Manurial requirements

(*e*) Seed rate

(*f*) Transplanting or sowing

(*g*) Irrigation

(*h*) Intercultural operations

(*i*) Staking

(*j*) Pests and diseases and their control

(*k*) Picking and harvesting

Theory Lectures	Periods	Camp Practicals	Field Practicals
(*l*) Storage			
(*m*) Seed raising			
(*n*) Cost of cultivation and return of important commercial crops only			
2. Preparation of the plan for popularizing vegetable cultivation in the locality, raising of vegetable nurseries and seeds. Supply of seed through different agencies	6	..	Taking up kitchen gardening programme in the villages through village schools, youth-clubs and individuals
3. Principles of laying out orchards—			
(*a*) Selection of site (*b*) Different systems of layout (*c*) Digging of pits and their filling	17	Practice layout (one of each type). Study of the layout of the existing orchards at the campus	
(*d*) Care and handling of plants and planting			
(*e*) Methods of Irrigation (*f*) Manuring (*g*) Care of plants in early stages and after-care of orchards		Digging of pits; their filling & planting. Lifting of at least two plants and their packing. Practice in the making of thatches to protect plants for frost & *loo*	
(*h*) Different types of fencing and their cost			
(For Hills only—Suitability of different altitudes and other factors for different kinds of fruit trees)			

4. Propagation by seed and vegetative methods, *e.g.* budding, grafting, layering, cutting, *gootie* and suckers, raising of nurseries	17	Practice in different methods of propagation. Practice in the use of secateurs, shears, budding and grafting knives and saws	Utilization of locally available seeds of important fruit crops for stock-raising
5. Study of cultivation of mango, citrus, guava, *papaya*, banana, and other important fruit and plantation crops of the locality, such as apple, pear, apricot, peach, cherries, walnut, coconut, arecanut, cashewnut, pineapple, chestnut and avecado under the following heads :	42	Practice in important operations as digging, irrigation, manuring, interculture, inter-cropping, training and pruning	Laying out of an orchard, its planting and subsequent operations
(*a*) Soil and climate (*b*) Varieties (*c*) Spacing (*d*) Manuring (*e*) Irrigation (*f*) Interculture and inter-cropping (*g*) Pruning and training (*h*) Pests and diseases and their control (*i*) Special care (j) Propagation (*k*) Picking, grading, packing and storage of fruit (*l*) Cost of cultivation and the returns (*m*) Simple methods of fruit and vegetable preservation, inlcuding indigenous methods	..	Demonstration of simple methods of fruit and vegetable preservation	
6. Causes of low bearing and their remedies . .	6		
7. Rejuvenation of old orchards by different methods—root pruning, top-working, manuring, replacement and irrigation	6		

Theory Lectures	Periods	Camp Practicals	Field Practicals
8. Community plantation—			
(a) Planning and organization of community orchards	3	Practice in preparation of plans for community orchards	Critical study of existing community orchards, if any, in the locality
(b) Planning and organisation of village afforestation programmes. Management of village forests. Facilities offered by the State for afforestation	8	Practice in digging of pits and trenches for sowing seeds for afforestation	Collection of seed and raising of nursery for afforestation
(c) Important rules relating to cutting of trees, grazing etc.	6		
9. Van Mahotsava—Its significance, organization, arrangement of supplies and followup	3	..	Participation in the Van Mahotsava drive
10. Elementary principles and layout of ornamental gardens—			
Growing of common perennial and seasonal flowering plants, shrubs, trees and hedges, climbers and creepers suited to the locality	28	Identification of common flowers, ornamental shrubs and trees. Raising of nursery of seasonal flowers and their planting in pots as well as in ornamental beds. Collection of seeds	Popularizing ornamental gardening in villages, homes and the Institutions
11. *Bee-Keeping*—			
Elementary principles of bee-keeping. Nectar bearing plants. Importance of bees in cross-pollination	14	Identification of bee-keeping tools and appliances. (For hills only—Study of bee-hives; extraction of honey)	
(For hills only—Principles of bee-keeping and its economic importance. Raising of colonies, production and extraction of honey and wax, handling of bees and bee-keeping tools and appliances)			

12. Medicinal herbs (for hills and other suitable areas)			
Important herbs and drugs, their identification and collection. Preparation of herb chart		(For hills and other suitable areas—Adequate practice in identification and initial processing of medicinal herbs	
13. Lac cultivation (where applicable) . . .		Practice in identification and processing	
B. PLANT PROTECTION			
1. Importance and general principles of plant-protection	3		
2. Causes of spread of pests and diseases . .	4		
3. Different methods of control— . . . . . (a) Cultural (b) Mechanical (c) Chemical, (d) Biological	8		
4. Important insecticides and fungicides—Their sources of availability, cost and use	14	Identification of different insecticides and fungicides	
5. Preparation of important lotions, solutions, pastes and baits, etc.	8	Actual preparation of different concentrations and mixtures of insecticides and fungicides and their use in controlling pests and diseases. Precautions in handling them. Working out cost in controlling common local pests	Spraying and dusting for controlling insect-pests and diseases in the area according to incidence

Theory Lectures	Periods	Camp Practicals	Field Practicals
6. Plant-protection appliances and machinery ; their use, cost and source of availability	8	Handling, use and care of sprayer, duster, fumigation pump and seed dresser before and after the operation	
7. Control of general insect and non-insect pests, such as stored-grain pests, jassids and aphids, termites, locusts, rats, birds, monkeys etc.	21	Identification of various insect-pests and diseases. Practice in control measures according to incidence. Dusting the bags and fumigating the godown to control stored-grain pests	
8. The facilities provided by the plant-protection department	3		Preparation of annual plans of control measures to be taken up in one village. Participation with the regular V.L.Ws in drawing up programme of control measures, and implementing it

4. ANIMAL HUSBANDRY

Theory periods—270 *Periods for Camp practicals* 140

Theory Lectures	Periods	Camp Practicals	Field Practicals
1. Animal Husbandry Basic Information			
(a) Importance of livestock in the economy of the country	3		
(b) Elementary knowledge of internal and external vital parts of the body and their functions	6	Demonstration of various external, internal parts of cattle with the help of living animals, models and charts; and by dissecting goat or sheep etc.	

2. CATTLE MANAGENENT AND HOUSING			
(*i*) Body points of cattle	3		
(*ii*) Handling and restraint of cattle			
(1) Method of approach to the animals in field and house. Use of halters, head-ropes, nose-rings, etc.		Handling of ropes, hobbles, halters, etc. and parctical application in casting of animals	
(2) Method of casting and securing of cattle	3		Securing and casting for castration etc.
(*iii*) How to judge age and how to estimate weight of catttle	3	Practice in judging age of cattle and estimating their weight	
(*iv*) General care of healthy and sick animals	4		
(*v*) Housing—			
1. Existing types of common cattle-sheds, hygienic requirements with particular reference to drainage and ventilation ; Improved methods of housing under village conditions with locally available material, and their cost		Study of improved cattle-sheds and community milking-sheds with the help of models and diagrams	Visit to improved cattle-sheds in the area. Studying improvement that can be effected in existing cattle-sheds with locally available materialsand working out cost
2. Various types of model cattle-sheds and their cost	3		

Theory Lectures	Periods	Camp Practicals	Field Practicals
3 Construction of feeding-troughs ; suggestions for improvement in the existing troughs in villages under local conditions	3	..	Construction of improved feeding troughs and watering-troughs.
(*vi*) Watering ; importance of clean drinking-water	2		
(*vii*) Conservation of dung, urine and litter as manure	3		
(*viii*) Signs of health and disease ; Normal temperature, pulse, respiration, mucus membrane, dung and urine ; use of thermometer	4	Handling of thermometer, Counting of pulse and respiration	
(*ix*) Care and management of sick animals . .	3		
3. CATTLE BREEDING			
(*a*) General principles of livestock breeding, *viz.*, up-grading, cross-breeding and selective breeding etc., policy of breeding	6		
(*b*) Distinguishing characters of important breeds of cattle and buffaloes with special emphasis on breeds allocated to different tracts (Milch, draught and dualpurpose breeds)	6	Study of different breeds and their characteristics	Practice in identification of different breeds of the locality
(*c*) Age of maturity, signs of heat, mating, signs of pregnancy ; gestation period; case of pregnant animals, particularly during calving; care of newly-born calf	6	Recognition of signs of heat in cattle	
(*d*) Calf management—Housing, rearing and feeding of calf, Importance of colostrum. Symptoms, diagnosis and prevention of common calf diseases, *viz.* calf scour, dysentery, pneumonia and jointill	8		

(e) Stud-bulls—Selection of breeding bulls. Management and care of stud-bulls by *panchayats*; their housing and feeding. Proper way of service ; Harmful effects of too frequent and indiscriminate service on a sire. Number of cows allowed per bull in a year for natural service. Factors adversely affecting the fertility of the stud-animals and measures to avoid them	4	..	Study of the problems involved in the maintenance of stud-bulls by individuals and *panchayats*
(f) Castration of scrub-bulls. Organisation of castration programmes. Practical difficulties in its execution in villages, particularly those arising from prejudices, and measures to tackle them	3	Handling of castrator. Dummy practice in castration	Practice in castration where possible
(g) General idea about the working of the Key Village Scheme, including artificial insemination	3	Study of A.I. equipment and working of an A.I. Centre	
(h) Purchase of animals with *taqavi* loan. Precautions to be taken in their purchase. Observation of the progeny of the animals purchased with *taqavi*	3	Pratctice in filling up of taqavi forms for purchase of cattle, and maintenance of records	Observation of the progeny of animals purchased with *taqavi* and study of the records maintained
(i) Common causes of infertility in cows and buffaloes	2		
(j) Problem of uneconomic and stray cattle and their disposal by sale or despatch to *Gosadan*. Brief idea of State *Gosadans*. Establishment of district and private *Gosadans* under the Second Five Year Plan	3		Visit to a State, district or private *Gosadan*
4. Feeding			
(a) Fodder resources in the State . . .	2		
(b) General principles of animal nutrition ; Importance of balanced ration and its computation; Importance of concentrates & mineral mixtures including licks for increased production of milk and growth	7	Computation of balanced ration. Practice in feeding of farm animals	Observation of the effect of balanced ration over a certain period on the farmers' cattle and on milk production.

Theory Lectures	Periods	Camp Practicals	Field Practicals
(*c*) Importance of green fodder for animals' health and for increasing milk yield	3		
(*d*) Cropping Scheme for production of green fodder throughout the year	3	Identification and cultivation of important fodder crops	
(*e*) Conservation of fodder—Construction of silo pits, their cost and storage capacity ; Silage making, hay making under local conditions in villages particularly in the hills ; Storage of fodder	3	Practice in silage making in simple silo pits and hay making	
(*f*) Importance of pastures in Animal Husbandry. Controlled and rotational grazing. Important grasses for improvement of pastures and their sources of availability. Role of *Goan Samaj* and *Panchayats* in maintenance of community pastures	6	Practice in identifying important grasses used for improving pastures	
(*g*) Water and alkali treatment of paddy straw . .	2	Practice in water and alkali treatment of paddy straw	
5. Dairying			
(*a*) Milk as an article of diet. Composition of milk	3		
(*b*) Clean milk production; milking and milk-recording .	3	Preparation of animal for milking. Practice in milking.	
(*c*) Taking samples and testing milk for checking adulteration	2	Testing of milk by lactometer for adulteration ; limited utility of lactometer	
(*d*) Preservation, transportation, marketing and distribution of milk	3		
(*e*) Cream—its preparation and preservation . .	3	Preparation of milk products such as cream, butter, ghee, *dahi* and *khoa*	
(*f*) Value of skimmed milk in the feeding of calves and other livestock	2		

(*g*) Butter—its preparation from cream and curd and relative advantages and disadvantages	3	
(*h*) Feeding value of buttermilk for calves . .	2	
(*i*) Dahi (curd—preparation from whole milk and skimmed milk) . . .	1	
(*j*) *Khoa* making	2	
(*k*) Ghee making from butter and cream. Preservation of ghee. Rancidity in ghee.	3	
(*l*) Hygienic maintenance of dairy utensils . .	3	Cleaning and sterilization of dairy utensils
6. Sheep Husbandry		
(*a*) Importance of sheep husbandry . . .	2	
(*b*) Management and feeding of sheep under rural conditions	2	
(*c*) Important breeds and upgrading . . .	1	Identification of breeds
(*d*) Control measures against mange and liver fluke .	2	Practice in shearing
(*e*) Wool shearing—Seasons; methods; care of fleece, grading and marketing	3	Identification of wool and hair
7. Goat Husbandry		
(*a*) Importance of goat for milk and meat . .	2	Identification of breeds
(*b*) Important breeds and upgrading . . .	1	

Theory lectures	Periods	Camp practicals	Field practicals
(*c*) Management and feeding under village conditions	1		
(*d*) Control measures against pneumonia and worms	2		
8. Piggery			
Upgrading of pigs, feeding and management .	3		
9. Poultry			
(*a*) Important breeds of poultry, namely Rhode Island Red; White Leghorn, and New Hampshire etc., their characteristics and those of local breeds	3	Identification and handling of important poultry breeds	
(*b*) Improvement of poultry by distribution of hatchable eggs and replacement of country cocks for upgrading. Key Village Scheme of poultry. Selection of good layers	3		
(*c*) Proper feeding and management under rural conditions. Cheap designs of poultry houses and runs with locally available materials and estimate of costs	6	Practice in construction of models of poultry houses	Visit to a poultry farm
(*d*) Natural hatching. Use of incubator, and fostermother. Sexing of chicks . .	3	Demonstration of the use of incubator and fostermother. Practice in sexing	
(*e*) Rearing of chicks	3		
(*f*) Common contagious diseases affecting poultry, and their control	3	Practice in vaccination against fowl pox and inocculation againt Ranikhet disease	
(*g*) Defertilization of eggs, and their preservation for marketing	2	Practice in defertilization and preservation of eggs	
(*h*) Marketing of poultry ; Caponisation . .	3	Practice in caponisation	

10. Fisheries			
(*a*) Types of fish approved for the States . .	2	Identification of fish types wih the help of preserved specimens	
(*b*) Development of fisheres in villages ; difficulties involved and how to solve them	1		
(*c*) Paddy-cum-fish culture	1		
(*d*) Facilities provided by the State for the development of fisheries	2		
11. Veterinary Science			
(*a*) Common indigenous and other medicines, their identification, action and dosage. Proper storage of medicines	14	Identification of common medicines	
(*b*) Common veterinary instruments ; their handling and care	6	Identification and handling of common veterinary instruments	
(*c*) Common methods of administration of drugs e.g., drenching, inhalation, foot-bath, fomentation, poultice and enema, etc.	4	Practice in the use of drugs through drenching inhalation, foot-bath, fomentation, poultice and enema	Practice in use of drugs
(*d*) Elementary knowledge of abscess, wound and injuries including yoke-galls, under injuries, foot-rot in sheep and injuries of horn and hoof, their treatment	6	Practice in the treatment of abscess; injuries and wounds	
(*e*) Elementary knowledge of common non-contagious diseases, namely, impaction of rumen, tympanitis, diarrhoea, dysentery, bronchities and pneumonia ; their symptoms and treatment	7		

Theory lectures	Periods	Camp Practicals	Field practicals
(*f*) Parasitic diseases—	4		
(*i*) Common diseases caused by internal parasites, liver fluke and gastroenteritis; their control			
(*ii*) Common diseases caused by external parasites, ticks, mange, mites, and licks; common methods of their control under village conditions	6	Practice in spraying on cattle against external parasites	
(*g*) Infectious diseases ;			
(*i*) Meaning of infection, models of spread of infection, and action to be taken in case of out-break	2		
(*ii*) Common endemic and epidemic contagious and infectious diseases namely rinderpest, haemorrhagic septicaemia, black-quarter, anthrax, foot and mouth disease; their symptoms, differential diagnosis and treatment	14		
(*iii*) Practical measures for the prevention and control of contagious diseases in villages—	3	..	Participation in control measures in cases of out-break
(1) Isolation of sick animals			
(2) Proper disposal of carcasses			
(3) Cleaning and disinfection of premises			
(4) Statutory provision for control of epidemics	2		
(*iv*) Vaccine and sera			
(1) Difference between vaccine and sera	2		

(2) Care and precaution to be observed in storage, handling transport and use of vaccine and sera in the field	3	Study of G.T.V. set, vaccination equipment. Practice in handling and use of syringe and needles. Actual and dummy vaccinations and inoculations	At least 100 inoculations and vaccinations by each trainee. Maintenance of proper record of vaccinations and inoculations
(3) Proper method of vaccination precautions to be taken, follow-up of vaccination operation	3	..	Study of reactions in case of G.T.V. inoculations and recording them in the note book
12. State development programmes . . .	3		

5. CO-OPERATION

	Theory periods—130	Periods for Camp practicals—75	
1. Main principles of co-operation	15		
2. Brief history of the co-operative movement in the State	3		
3. Classification of co-operative societies . . .	8		
(a) Limited—Unlimited			
(b) Agricultural—Non-agricultural			
(c) Primary—Central			
(d) Credit—Non-credit			
4. Organization and working of a primary multipurpose co-operative Society	8	Preparation of proposals for organization of two societies on supplied data	Participation in the organization of a society
5. Study of the organization and working of grain banks	3		

Theory lectures	Periods	Camp practicals	Field practicals
6. Organization and working of block unions, such as klins and seed stores	8	Preparation of proposal for organization of one Block union on supplied data	Visit to a Block union to study its working
7. Brief outline of the Co-operative Societies Act and rules in respect of the following—	30		
(a) Registration			
(b) Amendment of bye-laws	..	Preparation of proposal for amendment of a particular provision of bye-laws in a primary society on supplied data	
(c) General and executive bodies . . .		..	To attend a general meeting and *Panchayat* meeting of a society when it is held
(d) Purchase, refund and transfer of shares (e) Lending, borrowing and investment (f) Profit distribution (g) Reserve and other funds (h) Arbitration (i) Reorganization of co-operative societies (j) Liquidation (k) Privileges granted to cooperative societies		Four exercises each on purchase, refund and transfer of shares. Preparation of two proposals of profit distribution on given data	To attend annual general meeting of a primary society
8. Brief idea of the aims, constitution and working of the following important societies	23		
(a) Co-operative Credit Society (b) Co-operative Marketing Society (c) Co-operative Farming Society (d) Co-operative Irrigation Society (e) Co-operative Milk and Ghee Society (f) Co-operative Consumers' Store (g) Co-operative Cane Development Union (h) Co-operative Rural, Central and District Bank (i) District or Regional Co-operative Federation (j) State Co-operative Bank			Visit to a Central Bank

(*k*) State Co-operative Federation (*l*) State Co-operative Union (*m*) State Cane Unions Federation			
9. Inspection of a Co-operative Society	15		Critical Inspection of a Multi-purpose Society
Usual defects found in working and accounts of a co-operative society and how to remove them under the following head with reference to the relevant provisions of the Act and Rules (*a*) Financial condition (*b*) Membership (*c*) Meetings (*d*) Account Keeping (*e*) Administration (*f*) Education in Co-operation (*g*) Audit objections and compliance			
10. Broad provisions of Second Five Year Plan with reference to	8		
(*a*) Planned Agricultural Credit and main recommendations of Rural Credit Survey Committee of Reserve Bank of India (*b*) Co-operative Marketing, Processing and Warehousing Schemes (*c*) Co-operative Milk and Ghee Societies (*d*) Co-operative Education			
11. Broad principles of maintenance of accounts in respect of (*a*) Primary Society Block Union and Seed Store (*b*) Annual Returns of a Primary Multi-purpose Society	20	Practice in filling of five or six important registers	Visit to one Primary Co-operative Society to study its account and records

Theory lectures	Periods	Camp practicals	Field practicals
6. PANCHAYATS			
Theory periods—130		Periods for camp practicals—75	
1. Brief idea of the evolution of *Panchayat* and their importance as statutory bodies	6		
2. Important provision of the *Panchayat* Act of the State, and the Rules in force	28		
3. Prescribed authorities under the *Panchayat* Act .	4		
4. Formation, functions, powers and working of the various *Panchayat* bodies	17	..	Attending meetings of *Panchayat* bodies to study their working, and recording the proceedings in the note book with comments
5. Land Management— Formation, function, powers and working of Land Management bodies like— (*a*) *Gaon Samaj* (*b*) Land Management Committee and similar bodies			
6. Elections— (*a*) Franchise (*b*) General elections (*c*) Bye-elections (*d*) Election of *Panchayat* Sub-Committees (*e*) Election of office-bearers of *Panchayat* bodies	7	Mock election of *Panchayat* office-bearers in Camp	
7. Duties of *Panchayat* office-bearers . . .	6		
8. Sources of income of *Panchayat*; Compulsory and optional taxes	4		

9. Preparation of annual programme of *Gaon Sabha*	4	Preparation of annual programme of one *Gaon Sabha* on given data	Attending meeting of one *Gaon Sabha* to study the formulation of annual programme
10. Village records maintained by *Panchayats*	6	Practice in filling the various forms and registers. Preparation of reports of vital Statistics	Study of the records of *Panchayat*
11. Model bye-laws of *Gaon Sabha*	4	..	Study of the working of model bye-laws
12. Inspection of *Panchayat* records. Common defects found and how to remove them	6	..	Study of the inspection note for one *Panchayat*
13. Forest *Panchayat* (wherever in operation) (*a*) Formation and functions (*b*) Records maintained	4	Practice in filling Forest *Panchayat* records	Study of the registers and records of a Forest *Panchayat*
14. *Panchayat* accounts— (*a*) Preparation of— (*i*) Panchayat budget (*ii*) Tax assessment list	8		
(*b*) Maintenance of— (*i*) Cash book (*ii*) Permanent advance register (*iii*) Receipt book (*iv*) Pass book (*v*) Fine register (*vi*) Register of process and summons, and notices issued for service (*vii*) Demand and collection register (*viii*) Pay bill of the establishment (*ix*) Stock book (*x*) Muster roll (*xi*) General ledger	20	Practice in filling up the account register	Study of the accounts of a *Panchayat*
(*c*) Audit and compliance of audit objections	6	Common defects found in *Panchayat* accounts and how to remove them.	

Theory lectures	Periods	Camp practicals	Field practicals
7. PUBLIC HEALTH			
Theory periods – 180		Periods for camp practicals – 110	
1. What is health and hygiene? Aims of Public Health Programme under village conditions	3		
2. Requirements of healthy living as fresh air, pure water, good housing, nutritive food and exercise	6		
3. Housing under local village conditions—selection of site and designs	6	Moulding of ventilators	Fixation of ventilators in village houses
4. Environmental sanitation			
(a) Disposal of waste water, and different types of soak-pits	28	Practice in the construction of a soak-pit	Construction of soak-pits
(b) Disposal of refuse and animal waste by composting and otherwise			
(c) Prevention of soil pollution. Requirements of latrines for the rural areas. Types suitable for the locality		Practice in the construction of important types of latrines and urinals recommended for the area	
(d) Sanitary constructions in village homes, *e.g.*, smokeless *choolah*, bathing platform, etc.		Construction of bathing platform. Practice in construction of smokeless *choolah*	Construction of smokeless *choolah gharaughi* and bathing Platform
(e) Pavement of village roads and lanes and construction of drains		Construction of pavements and drains	Construction of pavements and drains
(f) Disinfection of utensils. Hygienic disposal of stool, urine, sputum etc.			

5. Water			
(*a*) Sources of water supply	13	Conversion of temporary hard water into soft water	
(*b*) Its pollution and effect on general health			
(*c*) Disinfection and purification of water . . .		Practice in calculation of quantities of disinfectants required and in disinfection of wells	Disinfection of wells
(*d*) How to ensure safe drinking water supply and prevent pollution		Demonstration of pure and impure water; Potassium Iodide Test for chlorinated water	
6. Epidemics and their control—			
(*a*) Infection. Carriers of infection, *viz*., dust, water, mosquitoes, flies, fleas, bedbugs and lice etc., and their control	47		
(*b*) Important infectious diseases, namely, cholera, plague, small-pox, chickenpox measles, malaria, filaria, scabies, typhoid, influenza, tuberculosis, hook-worm, guinea worm, dysentery, yaws, leprosy, goitre, *kalazar* and venereal diseases; their symptoms, mode of spread, measures for prevention and control		Dummy practice in vaccination and inoculation. Maintenance of the vaccination and inoculation records. The preparation and spraying of D.D.T. and B.H.C. solution. Handling of equipment	Vaccination and inoculation. Spraying of houses with D.D.T and B.H.C.
(*c*) Important public health laws and rules regarding submision of reports about epidemics			
(*d*) The State anti-epidemic measures, *viz*., anti-malaria units etc.			
7. Nutrition and balanced diet—			
(*a*) Composition of food-proteins, carbohydrates, & fats, minerals, vitamins and water; their importance and functions. Diseases due to their deficiency. Value of sprouted pulses and greens	16		

Theory lectures	Periods	Camp Practicals	Field practicals
(*b*) Balanced diet; its importance. Balanced diets for adults doing heavy work, light work and moderate work, children and expectant mothers, keeping in view the foodstuffs available in villages. Every-day care of foodstuffs			
(*c*) Harmful effects of too much use of fats, spices and chillies			
(*d*) Food-poisoning			
8. Health of women and children			
Maternity and child health programmes. Pre-natal and post-natal care. Prevalent harmful practices. Need of family planning and use of recommended methods	8		Visit to a Maternity and Child Health Centre. Visit to a Family Planning Centre
9. Ocular hygiene. Prevention and care of trachoma and sore eyes	3		
10. Personal hygiene, health habits and a cleanliness drive	3		
11. School health work; health and hygiene among school children	3	Maintenance of health cards	
12. Health Education—Its objects and importance and how to carry out health education programme in the villages	3		
13. Sanitation in village fairs	6		Study of sanitary arrangements in village fairs and markets

14. Rurral medical relief—Treatment of minor ailments through prescribed medicine-chests	10 Indentification and use of medicines in the prescribed medicine-chests	
15. Elementary human anatomy and physiology. First aid to the injured. Full course (as prescribed by St. Johns Ambulance)	16 Practicals in first aid (as prescribed by St. Johns Ambulance)	Rendering first-aid according to need
16. Birth rate, death rate, and infantile mortality rate, and their relation to public health	3	Study of birth and death records maintained in villages
17. Planning of rural health programme with particular reference to sanitation, medical relief, and provision of out-door recreation	6	Drawing up health programme fo: one village

SOCIAL EDUCATION

Theory periods—140	Periods for institutional practicals—82	
1. Social Education—its meaning and scope	6	
2. Elementary Rural Sociology and Psychology. Common traditions and superstitions, and how to deal with them. Attitude towards new innovations and innovators. Local leadership ; importance of approaching people through their accepted leaders. Class and caste structure as it affects adoption of new practices Family relations and kinship Elements of citizenship	17	
3. Methods of approach— (a) Individual approach (b) Group approach (c) Mass approach	8 Group discussion on two important topics	Attending two village meetings.

Theory Lectures	Periods	Institutional Practicals	Field Practicals
4. Media of approach—	39		To participate and record observations on (*a*) Study tours (*b*) Demonstrations
(*a*) General—Method and result; demonstrations, sight-seeing, lectures, processions, *prabhat pheris*, *kisan melas*, exhibitions, competitions, study group, *sammelans*, *goshthi*, drives, village sports, and Community Centres.			
(*b*) Cultural-*bhajan*, *kirtan*, *katha*, *ramlila*, shadow play, one act play, drama, pantomime, folk songs, folk dances, *jhankis*, national and local festivals		To organize in group— (*i*) Drama (*ii*) Shadow play (*iii*) one-act play	To organize and participate in traditional and national festivals and cultural programmes
(*c*) Audio-visual aids—Films, filmstrips, slides, tape-recorder, radio, gramophone, newspaper, news letter, wall chart, poster, flash card, flannel graph, and puppet show, models and exhibits		Preparation of flannel graph, jet series, charts, puppets and other simple aids Handling of radio set. Practice in giving running commentaries	
5. Promotion of the farm youth activities and mobilization of young farmers to increase food production and national wealth	17		Organization of Young Farmers' Clubs and practical work connected with the economic, and self help educational project programmes of the Club members (49 periods)
(*a*) Aims, objectives and scope of farm youth organization			
(*b*) Need for organized national programme for farm youths			Visit to and study of the existing village youth activities
(*c*) Role of the farm youth organisation in the development of rural communities and rural wealth			Meetings & discussions with parents, village elders and school teachers
(*d*) Co-ordination of the farm youth work with local institutions, *Panchayats*, and Co-operative Societies.			Organization of first meeting of village youths

(e) Psychology of rural youth with special reference to their interests and abilities at different age levels	Organization of clubs
(i) Similarities & difference in learning of different age groups	Assignment of project programme and carrying on project work
(ii) Individual differences in learning	
(f) Techniques of organization of clubs and methods of approach	Organization of study trips to model farms and nearby agricultural Institutions
(g) Importance of parents, village elders and school teachers in the Farm Youth Clubs	Arranging visits to other village clubs
(h) Organization of clubs step by step	
(i) Arrangements for first club meeting and subsequent regular meetings	Organizing of fairs rallies and camps
(ii) Making club rules and constitution	
(i) Project work	Awarding of modest rewards to outstanding members of clubs for completion of project programmes
(i) Considerations in the selection of projects	
(ii) Economic project work and productive hobbies	
(iii) Self help and educational project programme	
(iv) Individual projects and group projects	
(v) Importance of the club records	
(vi) Development of constructive thinking through project work	
(vii) Methods of securing finance, equipment and supplies for the club	
(viii) Spotting and training of junior local leaders	
(ix) Guidance and supervision of club activities	
(j) Evaluation	
(i) Evaluation of farm youth activities under the following heads	

Theory lectures	Period	Camp practicals	Field practicals
(*ii*) Economic betterment of the club member and his family (*iii*) Educational influence of the activity on the member and his family (*iv*) Health of the individual member and his family (*v*) Development of interest and initiative in co-operative enterprises (*vi*) Contribution of farm youth work in the Community development and the village			
6. Mobilization of village institutions, *viz.* *Panchayats*, Co-operative Societies, village schools and other local Non-official Agencies	14		Participation in cultural and Extension activities of village schools
7. Development of local leadership : Qualities, selections, training, organization, and follow-up	11		
8. Adult Education— (*a*) Concept (*b*) Adult psychology in learning (*c*) Different methods of adult literacy with special emphasis on chorus keywork method (*d*) Selection and training of adult teachers. (*e*) Organization of and equipment for adult literacy classes (*f*) Follow-up methods (*g*) Place of adult literacy in social education	17	Some practice in proper use of adult literacy charts	To visit an adult literacy centre and record observations
9. Basic Education—its concept and methods.			
10. Organization of (*i*) *Kisan melas* and exhibitions . . . (*ii*) Community Centre . . . (*iii*) Village libraries (*iv*) National festivals	11	Practice in flag hoisting and recitation of national anthem Practice in setting up of a community centre with supplied material	To participate in *kisan mela*; and exhibitions and record observations

GENERAL INCLUDING EXTENSION PRINCIPLES AND PROGRAMME PLANNING

Theory Periods 110 Periods for Institutions practical 60

1. Brief history of Rural Development work leading up to Pilot and Community projects	6	
2. Objectives and principles of Extension work among youth and adults	6	
3. National Extension Service Staffing pattern and budget (*a*) Shadow blocks (*b*) First stage (*c*) Second stage	6	
4. Constitution and role of the following in Extension programme— (*a*) Planning Commission (*b*) National Development Council (*c*) State Planning Committee (*d*) District Planning Committee (*e*) Block Advisory Committee (*f*) State Development Department (*i*) Agriculture (*ii*) Education (*iii*) Animal Husbandry (*iv*) Public Health (*v*) Co-operative (*vi*) *Panchayat* (*vii*) Cane Development (*viii*) Social Welfare (*ix*) P.W.D. (*x*) Irrigation (*xi*) Harijan Welfare (*xii*) Tribal Welfare (*xiii*) Cottage Industries	14	To attend meeting of the Block Advisory Committee

Theory lectures	Period	Camp practicals	Field practicals
5. Brief outline of—			
(*a*) First Five Year Plan and achievements with special reference to Community Development Programme	6		
(*b*) Second Five Year Plan, emphasis and priorities			
6. Programme Planning at village level—			
(*a*) Basic principles of planning	2		
(*b*) Importance of survey and how to carry it out	3	Practice in filling up of suvey form	Survey of one village
(*c*) Resources—			
(*i*) Local-man-power, material and money			
(*ii*) External—			
(1) Material			
(2) Technical			
(3) Financial—Loans, subsidy, grants in-aid, donations			
(4) Agencies—			
(*i*) Local—Individuals, *Panchayats*, Youth Clubs, co-operative societies & other village organizations	3		
(*ii*) External-State Departments & non-official organizations			
(*e*) Formulation of plan—			
(*i*) Determination of priorities item-wise, on the basis of survey	2	Practice in preparation of the programme of work and supplies as given in data	Preparation of agricultural plan for one village
(*ii*) Phasing and break-up of the plan	8		Attending three consecutive meetings of the Block staff
(*iii*) Fixation of targets, their importance and how to fix them	3		
(*iv*) Equipment and supplies. Importance of supply line and how to maintain it, common bottle-necks and how to overcome them	3		
(*v*) Follow-up of specific programmes	6		
(*vi*) Evaluation—Methods and yard-sticks	3		

7. Man-power mobilization	2		
8. Rules and procedures of grants-in-aid and loans (*a*) *Taqavi* (*b*) Development loans (*c*) Grants-in-aid (*d*) Others	8	Practice in filling up application forms, bond forms and execution reports	
9. Small Savings drive—its importance in Community Development Programme	3		
10. The Village Level Worker— (*a*) Multi-purpose concept of Extension work and role of Village Level Worker in this programme (*b*) Essential qualities and attitudes (*c*) Object of Extension training (*d*) Equipment necessary for Village Level Worker (*e*) Importance of self-evaluation	7	Familiarity with the equipment and practice in proper maintenance	
11. Preparation and maintenance of reports and records (*a*) Tour Programme (*b*) Diary (*c*) Monthly progress report and other periodical returns (*d*) Target and achievement register (*e*) Stock register (*f*) Works register (*g*) Demonstration register (*h*) Vaccination and inoculation register (*i*) Family card	15		
12. Elementary knowledge of village revenue records maintained by *Lekhpal/Patel/Patwari*	3		Study of village revenue records
13. Elementary knowledge about consolidation of holdings and its importance in Extension programme	3		

Theory Lectures	Periods	Camp Practicals	Field Practicals
10. MINOR ENGINEERING WORKS			
Theory period—60		Period for Camp practicals—40	
1. Chain survey	3	Practice in chain survey	
2. General idea and estimated cost per unit of (a) Earth work (b) Concrete work (c) Brick work (d) Lintel (e) Damp proof course (f) Wood-work (g) Plastering (h) Pointing (i) Cement concrete flooring (j) Drains	15	Familiarity with use of Dumpy Level	
3. Roads and pavements—Alignment, camber, slopes and estimated cost per unit of (a) *Kachcha* roads (b) *Kharanja* (c) *Paranja* (d) *Kankar* road (e) *Morram* road (f) Metalled road	9	Practice in construction of village roads and pavements	
4. Culverts— (a) Different types of culverts and calculation of the span ; estimated cost per unit (b) Hume pipes, their use, cost and source of availability	6		
5. Hand pumps— (a) Different types of hand-pumps, their parts and cost (b) Minor repairs	3	Installation of hand pumps and their minor repairs	

6. Wells—		
Irrigation wells and drinking water wells, material required and estimated cost of construction of wells of different sizes	6	
Renovation of wells		
7. Fencing—		
Different types and their estimated cost per unit. Source of availability	4	
8. Housing and community building (a) Selection of site (b) Different designs suitable for the locality with estimated cost of (i) Sanitary houses (ii) *Panchayat Ghar* (iii) Community Centre (iv) Village school (v) Cattle-shed	14	Critical study of community buildings in the area

11. RURAL INDUSTRIES

Theory periods —100 Periods for Camp practicals—100

1. General programme of development of rural industries. Allocation of funds for different industries in the Second Five Year Plan	12	
2. Administrative set-up of various All-India Boards, and their relation to the State Industries Department	15	
3. Broad outlines of the requirements of the following industries, with brief description of the schemes of development and the pattern and channels of assistance		

Theory Lectures	Periods	Camp Practicals	Field Practicals
A. Village Industries— (*i*) *Khadi* and weaving (*ii*) Ambar charkha (*iii*) *Gur* and *Khandsari* (*iv*) Palm *Gur* (*v*) Cottage match industry (*vi*) Village pottery (*vii*) Bee-keeping (*viii*) Oil *ghani* (*ix*) Non-edible oils and soap (*x*) Flaying and bone digesting (*xi*) Leather goods (*xii*) Hand pounding of rice	73	Practice in *charkha* spinning and Ambar *charkha* spinning	

SELECTION OF VILLAGE LEVEL WORKER TRAINEES

The minimum educational qualification for admission to the Extension Training Institutions should be the high school or equivalent examination, relaxable only in the cases of the candidates belonging to the backward classes and ex-service men.

As a large number of candidates apply for selection as Village Level Worker Trainees, it is desirable that screening should be done at a district level by a District Magistrate. It should be based on the candidate's academic career, power of expression, writing and speaking, rural bent of mind and physical fitness.

Selected candidates at the district level should appear before a selection board consisting of the State Development Commissioner or his representative, the Director of Agriculture or his representative, the principal of one Extension Training Centre, (Principal of the local agricultural college or his representative), two or three non-officials nominated by the Development Commissioner. This Selection Committee should select candidates on the basis of written tests, endurance tests and viva voce. The criteria for selecting candidates should be their proper aptitude for work as Gram Sevaks, physical fitness and sincerity of purpose. In viva voce, mental alertness, personality and general suitability of the candidates should be assessed. It will be desirable that these tests are held at one or more Extension Training Centres.

For the endurance test, candidates may be required to prepare seed-beds for sowing a particular crop, or they may be asked to dig pits , or they should be given some other physical work. They should also be made to walk or cycle a given distance, within a limited period.

In the written test, effort should be made to know if the candidate has knowledge of agriculture and animal husbandry to the extent an ordinary cultivator has.

There should be some questions to test the general knowledge of the candidates. Wherever possible, help of psychologists may be obtained to judge the suitability of the candidates for the job of Gram Sevaks.

The candidates should be required to stay in the campus for at least three days. During this period they should be under constant observation of the staff of the Extension Training Centre and members of the Selection Committee. Marks should be allotted for every item of the above tests by every member of the Selection Committee. These marks should be totalled for grading the candidates.

EXAMINATION—PROCEDURE AND RULES

The procedure for assessment of the performance of the trainees has been indicated under the head 'Assessment' in the syllabus.

For conducting the final, theory and practical examinations, there should be in every State an examination board consisting of the principals of the Extension Training Institutions, a nominee of the Development Commissioner and a nominee of the Director of Agriculture. As far as possible there should be a common scheme of examination for all the Training Centres in the State. A common paper for all or a group of Extension Training Centres in every subject should be set and moderated by a small committee of moderators. After the answer books have been examined and marked by respective examiners, they should be returned to the principals concerned with the examiner's observations, so that the general deficiencies noticed may be discussed with the trainees and possibly removed before they leave the Extension Training Centre. The staff of the Block Development Departments (state and district level) and the Directorate of Extension Training should be associated with both the theory as well as practical examination.

Remuneration to Paper Setters and Examiners. The paper setter should receive Rs. 25 for every paper set by him. The examiner should receive As. 12 per candidate for marking the answer books. The examiner conducting examination in practicals should get Re. 1 per candidate. In both the theory and practical examinations, the minimum remuneration to an examiner should be Rs. 30 including the amount that the examiner gets as a paper setter.

Only those candidates should be eligible to appear at the final theory and practical examinations, who have completed a regular course of study in one of the state institutions. "Regular course" means that a candidate has attended at least 90% of the theory and practical classes in individual subjects during the term. The head of the Institution may, however, condone the shortfall in attendance to the extent of 10% on medical and other reasonable grounds.

Supplementary Examinations. Any candidate who has obtained 45 percent aggregate number of marks but has failed in one subject only, obtaining not less than 25% in the latter, shall be admitted to the supplementary examination to be held within three months of the date on which the results are announced to appear only in the subject in which he has failed. He shall be deemed to have passed the final examination on passing the said supplementary examination.

As the cases for the supplementary examination will be very few, it should be conducted at one or two Centres only.

Scrutiny of marks. The candidate who appears at the examination may apply to the examination board of his State for the scrutiny of his marks and rechecking of his results in accordance with the following rules:—

(*i*) Such an application must be submitted within a month from the date the results are declared.

(*ii*) Every such application must be accompanied by a fee of Rs. 3 only. The fee may be remitted by money order to the Chairman or the Secretary of the Board.

(*iii*) No candidate shall be entitled to the refund of the fee so remitted, unless a mistake affecting his examination result as published earlier has been detected after scrutiny.

(*iv*) If on scrutiny a mistake in the result, as originally published is detected, it shall be made known to all concerned, otherwise the result of the scrutiny will be communicated to the candidate only.

(*v*) Scrutiny of the answer book only means rechecking to find out if there has been any mistake in totalling of the marks assigned to various questions or if there has been any omission in marking the answer of a question or questions.

(*vi*) The decision of the Board in respect of the result of the scrutiny and rechecking will be final.

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